

PENT COOPERATION TRE

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)Date of mailing (day/month/year)
29 août 2001 (29.08.01)

From the INTERNATIONAL BUREAU

To:

HALLYBONE, Huw
Carpmaels & Ransford
43 Bloomsbury Square
London WC1A 2RA
ROYAUME-UNIApplicant's or agent's file reference
SAH01075WO

IMPORTANT NOTIFICATION

International application No.
PCT/GB00/03142International filing date (day/month/year)
15 août 2000 (15.08.00)

1. The following indications appeared on record concerning:

 the applicant the inventor the agent the common representative

Name and Address

GILL JENNINGS & EVERY
Broadgate House
7 Eldon Street
London EC2M 7LH
United Kingdom

State of Nationality

State of Residence

Telephone No.

+44 20 7377 1377

Facsimile No.

+44 20 7377 1310

Teleprinter No.

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

 the person the name the address the nationality the residence

Name and Address

HALLYBONE, Huw
Carpmaels & Ransford
43 Bloomsbury Square
London WC1A 2RA
United Kingdom

State of Nationality

State of Residence

Telephone No.

Facsimile No.

Teleprinter No.

3. Further observations, if necessary:

4. A copy of this notification has been sent to:

 the receiving Office the designated Offices concerned the International Searching Authority the elected Offices concerned the International Preliminary Examining Authority other:The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Dominique DELMAS

Facsimile No.: (41-22) 740.14.35

Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference SAH01075W0	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/ GB 00/ 03142	International filing date (day/month/year) 15/08/2000	(Earliest) Priority Date (day/month/year) 17/08/1999
Applicant THE TECHNOLOGY PARTNERSHIP plc		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).
- b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing :
 - contained in the international application in written form.
 - filed together with the international application in computer readable form.
 - furnished subsequently to this Authority in written form.
 - furnished subsequently to this Authority in computer readable form.
 - the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
 - the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. Certain claims were found unsearchable (See Box I).

3. Unity of Invention is lacking (see Box II).

4. With regard to the title,

- the text is approved as submitted by the applicant.
- the text has been established by this Authority to read as follows:

SAMPLING/DISPENSING DEVICE WITH PLUNGER AND HOUSING SET ONTO PLUNGER

5. With regard to the abstract,

- the text is approved as submitted by the applicant.
- the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawing to be published with the abstract is Figure No.

- as suggested by the applicant.
- because the applicant failed to suggest a figure.
- because this figure better characterizes the invention.

1

None of the figures.

INTERNATIONAL SEARCH REPORT

International Application No

GB 00/03142

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B01L3/02 //A61M5/31

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 B01L A61M G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 658 258 A (KNEER ROLAND ET AL) 19 August 1997 (1997-08-19) column 1, line 34 -column 1, line 48 column 1, line 62 -column 1, line 65 column 2, line 3 -column 2, line 9 column 2, line 17 -column 2, line 24 column 3, line 18 -column 3, line 36 column 4, line 41 -column 5, line 9 column 5, line 31 -column 5, line 40 column 5, line 46 -column 5, line 57 figures 1-8 --- -/--	1,3,4,7

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

Date of mailing of the international search report

27 October 2000

03/11/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl.
 Fax: (+31-70) 340-3016

Authorized officer

Koch, A

INTERNATIONAL SEARCH REPORT

International Application No

GB 00/03142

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 443 227 A (ITO CORP) 28 August 1991 (1991-08-28) column 1, line 19 -column 1, line 52 column 2, line 31 -column 2, line 44 column 3, line 41 -column 4, line 6 column 5, line 32 -column 6, line 5 figures 1,5 ---	1-3
A	EP 0 226 867 A (HAMILTON BONADUZ AG) 1 July 1987 (1987-07-01) page 1, line 1 -page 2, line 2 page 2, line 19 -page 2, line 31 page 4, line 2 -page 4, line 24 page 5, line 12 -page 5, line 36 page 6, line 12 -page 6, line 25 page 11, line 18 -page 14, line 12 figures 1-10 ---	1,8,9
X	US 3 766 785 A (SMERNOFF R) 23 October 1973 (1973-10-23) column 1, line 61 -column 2, line 38 column 4, line 15 -column 4, line 25 column 5, line 8 -column 5, line 51 figures 1,7,8 ---	1,7
X	WO 99 34931 A (CARTESIAN TECHNOLOGY INC) 15 July 1999 (1999-07-15) page 10, line 18 -page 10, line 26 page 10, line 36 -page 11, line 3 page 11, line 14 -page 11, line 15 page 24, line 26 -page 24, line 34 figures 2,4,10 ---	1-4
Y	WO 92 20778 A (KINDCONI PTY LIMITED) 26 November 1992 (1992-11-26) page 6, line 2 -page 6, line 32 figures 1,2 -----	11 12
2		

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

GB 00/03142

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 5658258	A	19-08-1997		DE 4433198 C EP 0701864 A		13-06-1996 20-03-1996
EP 0443227	A	28-08-1991		AU 617589 B AU 4992690 A US 5063025 A		28-11-1991 05-09-1991 05-11-1991
EP 0226867	A	01-07-1987		CH 671526 A AT 74539 T CA 1321985 A DE 3684767 A ES 2030656 T JP 2528297 B JP 62191049 A US 4967604 A US 4830832 A		15-09-1989 15-04-1992 07-09-1993 14-05-1992 16-11-1992 28-08-1996 21-08-1987 06-11-1990 16-05-1989
US 3766785	A	23-10-1973		CA 976929 A CH 336620 A CH 440768 A DE 2248573 A DE 1191140 B FR 2015747 A FR 2156019 A FR 1317488 A FR 1492062 A GB 1411424 A GB 720204 A GB 815199 A GB 962356 A GB 1148241 A GB 1148242 A US 1747523 A US 3853012 A US 2517689 A US 2685800 A US 2724275 A US 2994349 A US 3244009 A US 3285296 A US 3500689 A		28-10-1975 12-04-1973 30-04-1970 25-05-1973 08-05-1963 22-11-1967 22-10-1975 18-02-1930 10-12-1974 08-08-1950 10-08-1954 22-11-1955 01-08-1961 05-04-1966 15-11-1966 17-03-1970
WO 9934931	A	15-07-1999		US 6063339 A AU 2211999 A EP 1044072 A		16-05-2000 26-07-1999 18-10-2000
WO 9220778	A	26-11-1992		NONE		

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

HALLYBONE, Huw George
Carpmaels & Ransford
43 Bloomsbury Square
London WC1A 2RA
GRANDE BRETAGNE

PCT

NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

(PCT Rule 71.1)

Date of mailing (day/month/year)	29.11.2001
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Applicant's or agent's file reference P027801WO:HGH/GJS	IMPORTANT NOTIFICATION
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International application No. PCT/GB00/03142	International filing date (day/month/year) 15/08/2000	Priority date (day/month/year) 17/08/1999
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Applicant THE TECHNOLOGY PARTNERSHIP plc et al.
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1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/	Authorized officer
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 European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Ipinazar, P
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Tel. +49 89 2399-8131



INTENT COOPERATION TREATY
PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P027801WO:GHG/GJS	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/GB00/03142	International filing date (day/month/year) 15/08/2000	Priority date (day/month/year) 17/08/1999
International Patent Classification (IPC) or national classification and IPC B01L3/02		
Applicant THE TECHNOLOGY PARTNERSHIP plc et al.		
1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of 5 sheets, including this cover sheet. <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of 2 sheets.		
3. This report contains indications relating to the following items:		
I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application		
Date of submission of the demand 05/03/2001	Date of completion of this report 29.11.2001	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Skowronski, M Telephone No. +49 89 2399 8475	



INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

International application No. PCT/GB00/03142

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, pages:

1-10 as originally filed

Claims, No.:

1-14 as received on 05/11/2001 with letter of 02/11/2001

Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/03142

the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)): *(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-8
	No: Claims 9-14
Inventive step (IS)	Yes: Claims 1-8
	No: Claims 9-14
Industrial applicability (IA)	Yes: Claims 1-14
	No: Claims

**2. Citations and explanations
see separate sheet**

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/03142

Following documents have been cited in the international search report:

- D1: US-A-5 658 258 (KNEER ROLAND ET AL) 19 August 1997 (1997-08-19)
- D2: EP-A-0 443 227 (ITO CORP) 28 August 1991 (1991-08-28)
- D3: EP-A-0 226 867 (HAMILTON BONADUZ AG) 1 July 1987 (1987-07-01)
- D4: US-A-3 766 785 (SMERNOFF R) 23 October 1973 (1973-10-23)
- D5: WO 99 34931 A (CARTESIAN TECHNOLOGY INC) 15 July 1999 (1999-07-15)
- D6: WO 92 20778 A (KINDCONI PTY LIMITED) 26 November 1992 (1992-11-26)

Item VIII

1.1 As explained below, some of the features in the apparatus **claims 9-14** relate to a method of producing the device rather than clearly defining the device in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

Claim 9 includes by relating to claim 1 the method step of having the housing formed by moulding and setting the second material onto the surface of the plunger, which do not result in any technical feature of the device.

Consequently, the subject-matter of claims 9-14 have only be examined for the specific technical feature present in the device claims.

Item V

2.1 **Claims 1-8:** Non of the prior art documents disclose the method of making a positive displacement type substance sampling and dispensing device, comprising moulding and setting a second material around a central plunger formed of a first drawn material, such that the second material forms a barrel corresponding to the outer surface of the plunger.

The method of claim 1 improves the production of syringes. There is no indication in the given prior art to use the method of claim 1, so that the subject-matter of claim 1 seems to fulfil the requirements of Article 33 PCT.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/03142

2.2 **Claim 9-14:** The description of the present application presents a medical syringes having rigid polystyrene bores and rubber piston ends, or stiff polypropylene pistons which a compliant thin-walled bore as a prior art device. This very simple devices are already novelty destroying for the technical features given in device claim 9, so that their subject-matter is not new in the sense of Article 33(2) PCT.

2.3 Further, do **claims 10-14** contain technical features which are obvious for the person skilled in the art, so that their subject-matter is not new in the sense of Article 33(2) PCT

CLAIMS

1. A positive displacement type substance sampling and dispensing device comprising:
 - 5 a central plunger formed from a first material; and a plunger housing formed from a second material the housing being formed by moulding and setting the second material on to the surface of the plunger so that the plunger can slide in the housing to draw a substance into
 - 10 it.
2. A device according to claim 1, wherein the plunger is formed from drawn wire or extruded metal.
- 15 3. A device according to claim 1, wherein the first material is one of metal, plastic and ceramic.
4. A device according to any one of the preceding claims, wherein the second material is plastics material.
- 20 5. A device according to any one of the preceding claims, wherein the plunger is actively cooled during moulding.
6. A device according to any one of the preceding claims, 25 wherein the first material has a higher thermal conductivity and/or specific heat capacity than the second material.
7. A device according to any one of the preceding claims, 30 wherein the housing is moulded onto the plunger by one of injection moulding, welding, coextrusion casting and dip coating.
8. A device according to any preceding claim, attached 35 to a flexible strip, to which further devices are attached in use.

9. A device according to any claim 8, wherein the strip has sprocket holes to drive and align the pipettes.

10. A device according to any preceding claim, wherein the 5 housing is formed so that at one end of the device there is provided a frangible tip which can be removed before use.

11. A device according to any of claims 1 to 11, wherein 10 the device is formed so that it has a heat sealable tip.

12. A device according to any proceeding claim comprising plural plungers arranged on different axes and each sliding within a different region of the housing, the different 15 regions of the housing being joined at a central common core adjacent to an aperture.

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

To:

GILL JENNINGS & EVERY
Broadgate House
7 Eldon Street
London EC2M 7LH
ROYAUME-UNI

Date of mailing (day/month/year) 14 November 2000 (14.11.00)			
Applicant's or agent's file reference SAH01075WO	IMPORTANT NOTIFICATION		
International application No. PCT/GB00/03142	International filing date (day/month/year) 15 August 2000 (15.08.00)		
International publication date (day/month/year) Not yet published	Priority date (day/month/year) 17 August 1999 (17.08.99)		
Applicant THE TECHNOLOGY PARTNERSHIP PLC et al			
<p>1. The applicant is hereby notified of the date of receipt (except where the letters "NR" appear in the right-hand column) by the International Bureau of the priority document(s) relating to the earlier application(s) indicated below. Unless otherwise indicated by an asterisk appearing next to a date of receipt, or by the letters "NR", in the right-hand column, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).</p> <p>2. This updates and replaces any previously issued notification concerning submission or transmittal of priority documents.</p> <p>3. An asterisk(*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b). In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.</p> <p>4. The letters "NR" appearing in the right-hand column denote a priority document which was not received by the International Bureau or which the applicant did not request the receiving Office to prepare and transmit to the International Bureau, as provided by Rule 17.1(a) or (b), respectively. In such a case, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.</p>			
<u>Priority date</u> 17 Augu 1999 (17.08.99)	<u>Priority application No.</u> 99306463.3	<u>Country or regional Office or PCT receiving Office</u> EP	<u>Date of receipt of priority document</u> 17 Octo 2000 (17.10.00)

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer Taïeb Akremi Telephone No. (41-22) 338.83.38
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PATENT COOPERATION TREATY

PCT

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

GILL JENNINGS & EVERY
Broadgate House
7 Eldon Street
London EC2M 7LH
ROYAUME-UNI

DIARIED

Date of mailing (day/month/year) 22 February 2001 (22.02.01)		
Applicant's or agent's file reference SAH01075WO		
International application No. PCT/GB00/03142	International filing date (day/month/year) 15 August 2000 (15.08.00)	Priority date (day/month/year) 17 August 1999 (17.08.99)
Applicant THE TECHNOLOGY PARTNERSHIP PLC et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
AU, KP, KR, US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE, AG, AL, AM, AP, AT, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EA, EE, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OA, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 22 February 2001 (22.02.01) under No. WO 01/12329

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a **demand for international preliminary examination** must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the **national phase**, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer J. Zahra Telephone No. (41-22) 338.83.38
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The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:

The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only

Identification of IPEA	IPEA/EP	Date of receipt of DEMAND	05-03-2001
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION		Applicant's or agent's file reference SAH01075WO	
International application No. PCT/GB00/03142	International filing date (day/month/year) 15/08/00	(Earliest) Priority date (day/month/year) 17/08/99	
Title of invention Sampling/Dispensing Device			
Box No. II APPLICANT(S)			
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) The Technology Partnership plc Melbourn Science Park Cambridge Road Melbourn Royston, Herts SG8 6EE		Telephone No.:	
		Facsimile No.:	
		Teleprinter No.:	
State (that is, country) of nationality: British	* GB	State (that is, country) of residence: United Kingdom	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) EDWARDS, Richard Kelby 7 Leys Walk Hauxton Cambridge CB2 5HZ United Kingdom			
State (that is, country) of nationality: British	* GB	State (that is, country) of residence: United Kingdom	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) CASSELLS, John c/o The Technology Partnership plc Melbourn Science Park Cambridge Road Melbourn, Royston Herts SG8 6EE			
State (that is, country) of nationality: British	* GB	State (that is, country) of residence: United Kingdom	
<input checked="" type="checkbox"/> Further applicants are indicated on a continuation sheet.			

Continuation of Box No. II APPLICANT(S)

If none of the following sub-boxes is used, this sheet should not be included in the demand.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

MOUNTENEY, Nicholas Ian
 30A Owl Way
 Hartford
 Huntingdon
 Cambridgeshire
 United Kingdom

State (that is, country) of nationality: British XXX	* GB	State (that is, country) of residence: United Kingdom
--	------	--

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

AVISON, Gerald
 59 Victoria Park
 Cambridge
 CB4 3EJ
 United Kingdom

State (that is, country) of nationality: British XXX	* GB	State (that is, country) of residence: United Kingdom
--	------	--

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:	State (that is, country) of residence:
--	--

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

State (that is, country) of nationality:	State (that is, country) of residence:
--	--

Further applicants are indicated on another continuation sheet.

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

To:

GILL JENNINGS &
Broadgate House
7 Eldon Street
LONDON EC2M 7LH
GRANDE BRETAGNE

EVERY **RECEIVED**

26 MAR 2001

GILL JENNINGS & EVERY

NOTIFICATION OF RECEIPT OF DEMAND BY COMPETENT INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

(PCT Rules 59.3(e) and 61.1(b), first sentence
and Administrative Instructions, Section 601(a))

Date of mailing
(day/month/year)

22. 03. 01

Applicant's or agent's file reference
SAH01075WO

IMPORTANT NOTIFICATION

International application No.
PCT/ GB 00/ 03142

International filing date (day/month/year)
15/08/2000

Priority date (day/month/year)
17/08/1999

Applicant

THE TECHNOLOGY PARTNERSHIP plc et al.

1. The applicant is hereby **notified** that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

05/03/2001

2. This date of receipt is:

the actual date of receipt of the demand by this Authority (Rule 61.1(b)).
 the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).
 the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. **ATTENTION:** That date of receipt is **AFTER** the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the *PCT Applicant's Guide*, Volume II.

+ 2 Pages of IPEA/1401

(If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on:

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau.

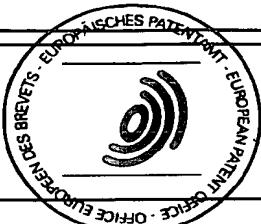
Name and mailing address of the IPEA/

European Patent Office
D-80298 Munich
Tel. (+49-89) 2399-0, Tx: 523656 epmu d
Fax: (+49-89) 2399-4465

Authorized officer

FALCO M

Tel. (+49-89) 2399-7276



INN: 26-10-01
PATENT COOPERATION TREATY

From the:
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

GILL JENNINGS & EVERY
Broadgate House
7 Eldon Street
LONDON EC2M 7LH
GRANDE BRETAGNE

COPY

PCT

WRITTEN OPINION

(PCT Rule 66)

DIARIED

GILL JENNINGS & EVERY

Date of mailing
(day/month/year) 26.07.2001

Applicant's or agent's file reference SAH01075WO		REPLY DUE	within 3 month(s) from the above date of mailing
International application No. PCT/GB00/03142	International filing date (day/month/year) 15/08/2000	Priority date (day/month/year) 17/08/1999	
International Patent Classification (IPC) or both national classification and IPC B01L3/02			
Applicant THE TECHNOLOGY PARTNERSHIP plc et al.			

1. This written opinion is the first drawn up by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I Basis of the opinion
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain document cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also: For an additional opportunity to submit amendments, see Rule 66.4. For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis. For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 17/12/2001.

Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer / Examiner Skowronski, M
---	--

Formalities officer (incl. extension of time limits) Ipinazar, P Telephone No. +49 89 2399 8131



I. Basis of the opinion

1. With regard to the **elements** of the international application (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed"):

Description, pages:

1-10 as originally filed

Claims, No.:

1-12 as originally filed

Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:

the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-12: No
Inventive step (IS)	Claims 1-12: No
Industrial applicability (IA)	Claims 1-12: Yes

2. Citations and explanations
see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

s separate sheet

Reference is made to the following documents:

- D1: US-A-5 658 258 (KNEER ROLAND ET AL) 19 August 1997 (1997-08-19)
- D2: EP-A-0 443 227 (ITO CORP) 28 August 1991 (1991-08-28)
- D3: EP-A-0 226 867 (HAMILTON BONADUZ AG) 1 July 1987 (1987-07-01)
- D4: US-A-3 766 785 (SMERNOFF R) 23 October 1973 (1973-10-23)
- D5: WO 99 34931 A (CARTESIAN TECHNOLOGY INC) 15 July 1999 (1999-07-15)
- D6: WO 92 20778 A (KINDCONI PTY LIMITED) 26 November 1992 (1992-11-26)

Item VIII

1.1 As explained below, some of the features in the apparatus **claims 1, 2, 5 and 7** relate to a method of producing the device rather than clearly defining the device in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

Claim 1, for example, includes the method step of having the housing formed by moulding and setting the second material onto the surface of the plunger, which do not result in any technical feature of the device.

If the applicant is, however, convinced that such a method of producing the device has an influence on the technical features of the sampling and dispensing device he is invited to specify them in terms of such technical features.

The same objections can be raised mutatis-mutandis on the subject-matter of claims 2, 5 and 7.

Consequently, the subject-matter of claims 1, 2, 5 and 7 have only be examined for the technical feature present in the claim, whereas the characterising features of claims 5 and 7 only contain functional features.

Item V

2.1 **Claim 1, 3, 4, 5 and 7:** The description of the present application presents a

medical syringes having rigid polystyrene bores and rubber piston ends, or stiff polypropylene pistons which a compliant thin-walled bore as a prior art device. This very simple devices are already novelty destroying for the technical features given in device claims 1, 3, 4, 5 and 7, so that their subject-matter is not new in the sense of Article 33(2) PCT.

- 2.2 Further, do **claims 2, 6 and 8-12** contain technical features which is obvious for the person skilled in the art, so that their subject-matter is not new in the sense of Article 33(2) PCT
- 2.3 At least some of the objections raised on the device claims are such that there appears to be no possibility of overcoming them by amendment.

The applicant is advised to file an independent claim which describes the method of producing a sampling and dispensing device. In this case the applicant should indicate in the letter of reply the difference of the subject-matter of the new claim vis-à-vis the state of the art represented by documents D1-D6 and the significance thereof using the problem-solution approach.

D1, for example, shows a method of producing an applicator where the cylinder, the piston and the strap are made in one piece, preferably in an injection-moulding process (column 2, 16-24).

PC

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only	
PCT/GB 00/03142	
International Application No.	
15 AUGUST 2000	15/08/00
International Filing Date	
United Kingdom Patent Office	
International Application	
Name of receiving Office and "PCT International Application"	
Applicant's or agent's file reference (if desired) (12 characters maximum) SAH01075WO	

Box No. I TITLE OF INVENTION
Sampling/Dispensing Device

Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

The Technology Partnership plc
Melbourn Science Park
Cambridge Road
Melbourn
Royston
Herts SG8 6EE
United Kingdom

This person is also inventor.

Telephone No.

Facsimile No.

Teleprinter No.

State (that is, country) of nationality: British 00 State (that is, country) of residence: United Kingdom

40
DELETED
POK/B

This person is applicant for the purposes of: all designated States all designated States except the United States of America the United States of America only the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANTS AND/OR (FURTHER) INVENTORS

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

EDWARDS, Richard Kelby
7 Leys Walk
Hauxton
Cambridge
CB2 5HZ
United Kingdom

This person is:

applicant only

applicant and inventor

inventor only (if this check-box is marked, do not fill in below.)

State (that is, country) of nationality: British State (that is, country) of residence: United Kingdom

This person is applicant for the purposes of: all designated States all designated States except the United States of America the United States of America only the States indicated in the Supplemental Box

Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as: agent common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

Gill Jennings & Every
Broadgate House
7 Eldon Street
London
EC2M 7LH
United Kingdom

Telephone No.

+44 20 7377 1377

Facsimile No.

+44 20 7377 1310

Teleprinter No.

(051) 22765 GILPAT G

Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

If none of the following sub-boxes is used, this sheet is not to be included in the request.

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

CASSELLS, John
 The Technology Partnership plc
 Melbourn Science Park
 Cambridge Road
 Melbourn, Royston
 Herts
 SG8 6EE

09B

This person is:

applicant only
 applicant and inventor
 inventor only (if this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

09B (British) 00

State (that is, country) of residence:

United Kingdom

ADDED
09B

This person is applicant for the purposes of:

all designated States all designated States except the United States of America the United States of America only the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

MOUNTENEY, Nicholas Ian
 30A Owl Way
 Hartford
 Huntingdon
 Cambridgeshire
 United Kingdom

DELETED
09B

This person is:

applicant only
 applicant and inventor
 inventor only (if this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

09B (British) 00

State (that is, country) of residence:

United Kingdom

This person is applicant for the purposes of:

all designated States all designated States except the United States of America the United States of America only the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

AVISON, Gerald
 59 Victoria Park
 Cambridge
 CB4 3EJ
 United Kingdom

This person is:

applicant only
 applicant and inventor
 inventor only (if this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

09B (British) 00

State (that is, country) of residence:

United Kingdom

This person is applicant for the purposes of:

all designated States all designated States except the United States of America the United States of America only the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

This person is:

applicant only
 applicant and inventor
 inventor only (if this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

all designated States all designated States except the United States of America the United States of America only the States indicated in the Supplemental Box

 Further applicants and/or (further) inventors are indicated on another continuation sheet.

Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	national application: country	regional application: * regional Office	international application: receiving Office
item (1) 17/08/1999 17 August 1999	99306463.3	(EP) 40	(EPO) 40 EP	
item (2)				
item (3)				

The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the Receiving Office) identified above as item(s): _____

* Where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which the earlier application was filed (Rule 4.10(b)(ii)). See Supplemental Box.

Box No. VII INTERNATIONAL SEARCHING AUTHORITY

Choice of International Searching Authority (ISA) (if two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used):

Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority).
Date (day/month/year) Number Country (or regional Office)

ISA/

Box No. VIII CHECK LIST; LANGUAGE OF FILING

This international application contains the following number of sheets:

request	: 4 ✓
description (excluding sequence listing part)	: 10 ✓
claims	: 2 ✓
abstract	: 1 ✓
drawings	: 6 ✓
sequence listing part of description	: 0
Total number of sheets	: 23 ✓

This international application is accompanied by the item(s) marked below:

- fee calculation sheet
- separate signed power of attorney
- copy of general power of attorney; reference number, if any:
- statement explaining lack of signature
- priority document(s) identified in Box No. VI as item(s):
- translation of international application into (language):
- separate indications concerning deposited microorganism or other biological material
- nucleotide and/or amino acid sequence listing in computer readable form
- other (specify): _____

Figure of the drawings which should accompany the abstract:

Language of filing of the international application: ENGLISH

Box No. IX SIGNATURE OF APPLICANT OR AGENT

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).

For the Applicant
Gill Jennings & Every

HALEY, Stephen

Date: 15 August 2000

For receiving Office use only

1. Date of actual receipt of the purported international application:	15 AUGUST 2000 15/08/00	2. Drawings: <input checked="" type="checkbox"/> received: <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:		
4. Date of timely receipt of the required corrections under PCT Article 11(2):		
5. International Searching Authority (if two or more are competent): ISA/	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid	

For International Bureau use only

Date of receipt of the record copy by the International Bureau:

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P027801WO:GHG/GJS	FOR FURTHER ACTION		See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/GB00/03142	International filing date (day/month/year) 15/08/2000	Priority date (day/month/year) 17/08/1999	
International Patent Classification (IPC) or national classification and IPC B01L3/02			
<p>Applicant THE TECHNOLOGY PARTNERSHIP plc et al.</p>			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 2 sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input checked="" type="checkbox"/> Certain observations on the international application 			

Date of submission of the demand 05/03/2001	Date of completion of this report 29.11.2001
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Skowronski, M Telephone No. +49 89 2399 8475



INTERNATIONAL PRELIMINARY
EXAMINATION REPORT

International application No. PCT/GB00/03142

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*):

Description, pages:

1-10 as originally filed

Claims, No.:

1-14 as received on 05/11/2001 with letter of 02/11/2001

Drawings, sheets:

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB00/03142

the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c));
(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims 1-8
	No: Claims 9-14
Inventive step (IS)	Yes: Claims 1-8
	No: Claims 9-14
Industrial applicability (IA)	Yes: Claims 1-14
	No: Claims

**2. Citations and explanations
see separate sheet**

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

Following documents have been cited in the international search report:

- D1: US-A-5 658 258 (KNEER ROLAND ET AL) 19 August 1997 (1997-08-19)
- D2: EP-A-0 443 227 (ITO CORP) 28 August 1991 (1991-08-28)
- D3: EP-A-0 226 867 (HAMILTON BONADUZ AG) 1 July 1987 (1987-07-01)
- D4: US-A-3 766 785 (SMERNOFF R) 23 October 1973 (1973-10-23)
- D5: WO 99 34931 A (CARTESIAN TECHNOLOGY INC) 15 July 1999 (1999-07-15)
- D6: WO 92 20778 A (KINDCONI PTY LIMITED) 26 November 1992 (1992-11-26)

Item VIII

- 1.1 As explained below, some of the features in the apparatus **claims 9-14** relate to a method of producing the device rather than clearly defining the device in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.

Claim 9 includes by relating to claim 1 the method step of having the housing formed by moulding and setting the second material onto the surface of the plunger, which do not result in any technical feature of the device.

Consequently, the subject-matter of claims 9-14 have only be examined for the specific technical feature present in the device claims.

Item V

- 2.1 **Claims 1-8:** Non of the prior art documents disclose the method of making a positive displacement type substance sampling and dispensing device, comprising moulding and setting a second material around a central plunger formed of a first drawn material, such that the second material forms a barrel corresponding to the outer surface of the plunger.
The method of claim 1 improves the production of syringes. There is no indication in the given prior art to use the method of claim 1, so that the subject-matter of claim 1 seems to fulfil the requirements of Article 33 PCT.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB00/03142

2.2 **Claim 9-14:** The description of the present application presents a medical syringes having rigid polystyrene bores and rubber piston ends, or stiff polypropylene pistons which a compliant thin-walled bore as a prior art device. This very simple devices are already novelty destroying for the technical features given in device claim 9, so that their subject-matter is not new in the sense of Article 33(2) PCT.

2.3 Further, do **claims 10-14** contain technical features which are obvious for the person skilled in the art, so that their subject-matter is not new in the sense of Article 33(2) PCT

GB0003142

CLAIMS

1. A method of making a positive displacement type substance sampling and dispensing device, comprising moulding and setting a second material around a central plunger formed of a first drawn material, such that the second material forms a barrel corresponding to the outer surface of the plunger.
2. A method according to claim 1, wherein the first drawn material is drawn wire or extruded metal.
- 10 3. A method according to claim 1, wherein the first drawn material is one of metal, plastic and ceramic.
4. A method according to any one of the preceding claims, wherein the 15 second material is plastics material.
5. A method according to any one of the preceding claims, wherein the first drawn material is actively cooled during moulding.
- 20 6. A method according to any one of the preceding claims, wherein the first drawn material has a higher thermal conductivity and/or specific heat capacity than the second material.
7. A method according to any one of the preceding claims, wherein the step of 25 moulding comprises one of injection moulding, welding, coextrusion casting and dip coating.
8. A method according to any preceding claim, wherein the barrel is formed to be a uniform cylinder.
- 30 9. A positive displacement type substance sampling and dispensing device made in accordance with the method of any preceding claim.



GB 000 3142

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10. A device according to claim 9, attached to a flexible strip, to which further devices are attached in use.

11. A device according to claim 10, wherein the strip has sprocket holes to
5 drive and align the devices attached thereto.

12. A device according to any of claims 9 to 11, wherein the moulded and set
first material forms a housing, which is provided, at one end thereof, with a
frangible tip which can be removed before use.

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13. A device according to any of claims 9 to 11, wherein the device is formed
so that it has a heat sealable tip.

14. A device according to any of claims 9 to 13 comprising plural plungers
15 arranged on different axes and each sliding within a different region of the
moulded and set second material, the different regions being joined at a central
common core adjacent to an aperture.

AMENDED SHEET